

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An apparatus for processing an image, comprising:

a subject information acquiring unit for extracting subject information contained in an input image from the input image;

a display information acquiring unit for acquiring display information representative of a performance of a display for displaying the input image;

an enhancement parameter determining unit for determining an enhancing degree as a parameter for enhancing a sharpness of the input image by using at least one of the subject information and the display information; and

an enhancing processing unit for carrying out a sharpness enhancing process on the input image by expanding a distribution in a direction of a first primary component without expanding the distribution in a direction of a second or third primary component using the enhancing degree.

2. (Currently Amended) An apparatus for processing an image according to claim 1, wherein the sharpness enhancing process is to expand a distribution of a first principal component analysis value computed by analyzing, based on a primary component, a part or entire of the input image by using the enhancing degree value.

3. (Currently Amended) An apparatus for processing an image according to claim 1,

wherein ~~the sharpness enhancing process is to generate a blurred image~~ the input image is entirely or partially blurred in an entire or part,

~~wherein and further to expand, by using the enhancing degree,~~ a distribution of a high-frequency component of an input image first component value is expanded by using the enhancing degree;

~~wherein the distribution is computed by the input image first principal component analysis value and a blurred image first principal component value;~~

~~wherein the input image first principal component analysis value is computed by analyzing, based on a primary component, an entire or part of the input image~~ entirely or partially based on a primary component;

~~wherein the and a blurred image first principal component analysis value is computed by analyzing, based on a principal component analysis, the blurred image based on a primary component;~~

~~wherein to which the blurred image first principal component analysis value is and expanded distribution are added.~~

4. (Original) An apparatus for processing an image according to claim 1, wherein the enhancing degree is an added value of the subject information and the display information.

5. (Original) An apparatus for processing an image according to claim 1, wherein the subject information is at least one of a power spectrum of the subject, a statistic amount concerning a high-frequency component of the power spectrum, a power spectrum of a texture of the subject, a statistic amount concerning a high-frequency component of the power spectrum of the texture of the subject, and a size of the texture of the subject.

6. (Original) An apparatus for processing an image according to claim 1, wherein the display information uses at least one of a maximum luminance, a contrast, a resolution and the number of display colors.

7. (Original) An apparatus for processing an image according to claim 1, further comprising an image receiving section for receiving compressed shape data and compressed texture data, a shape data reconstructing unit for reconstructing the

compressed shape data, a texture data reconstructing unit for reconstructing the compressed texture data into an input image, and a mapping unit for mapping the input image or the input image processed by the sharpness enhancing process onto the shape data reconstructed.

8.-9. (Cancelled).

10. (Currently Amended) A system for processing an image including an image processing apparatus and an image compressing apparatus, wherein,

the image processing apparatus comprises:

an image receiving section for receiving compressed shape data and compressed texture data;

a shape data reconstructing unit for reconstructing the compressed shape data;

an enhancing processing unit for carrying out a sharpness enhancing process on an input image by expanding a distribution in a direction of a first primary component without expanding the distribution in a direction of a second or third primary component

a texture data reconstructing unit for reconstructing the compressed texture data into ~~the~~an input image; and

a mapping unit for mapping the input image or the input image processed by a sharpness enhancing process onto the shape data reconstructed; and

the image compressing apparatus comprises:

a data separating unit for separating an input image into shape data and texture data;

a shape data compressing unit for compressing the shape data and attaching information about compression to the compressed data;

a texture compressing unit for compressing the texture data; and

an image transmitting unit for sending the shape data and texture data compressed.

11. (Currently Amended) A method for processing an image, comprising:

a first step of extracting subject information contained in an input image from the input image;

a second step of inputting display information representative of a performance of a display for displaying the input image;

a third step of determining an enhancing degree as a parameter for enhancing a sharpness of the input image by using at least one of the subject information and the display information; and

a fourth step of carrying out a sharpness enhancing process on the input image by expanding a distribution in a direction of a first primary component without expanding the distribution in a direction of a second or third primary component using the enhancing degree.

12. (Currently Amended) A method for processing an image according to claim 11, wherein the sharpness enhancing process is to expand a distribution of a first principal component analysis value computed by analyzing, based on a principal component analysis, a part or entire of the input image by using the enhancing degree value.

13. (Currently Amended) A method for processing an image according to claim 11,

wherein the sharpness enhancing process is to generate a blurred image the input image is entirely or partially blurred in an entire or part;

wherein and further to expand, by using the enhancing degree, a distribution of a high-frequency component of an input image first principal component analysis value is expanded by using the enhancing degree;

wherein the distribution is computed by the input image first principal component analysis value and a blurred image first principal component value;

wherein the input image first principal component analysis value is computed by analyzing, based on a principal component analysis, an entire or part of the input image entirely or partially based on a primary component;

wherein the and a blurred image first principal component analysis value is computed by analyzing, based on a principal component analysis, the blurred image based on a primary component;

wherein to which the blurred image first principal component analysis value is and expanded distribution are added.

14. (Original) A method for processing an image according to claim 11, wherein the enhancing degree is an added value of the subject information and the display information.

15. (Currently Amended) A method for processing an image according to claim 11, wherein the subject information is at least one of a power spectrum of the subject, a statistic amount concerning a high-frequency component of the power spectrum, a power spectrum of a texture of the subject, a statistic amount concerning a high-frequency component of the power spectrum of the texture of the subject, and a size of the texture of the subject.

16. (Original) A method for processing an image according to claim 11, wherein the display information uses at least one of a maximum luminance, a contrast, a resolution and the number of display colors.

17. (Original) A method for processing an image according to claim 11, wherein the input image is made by a fifth step for receiving compressed shape data and compressed texture data, a sixth step for reconstructing the compressed shape data, and a seventh step unit for reconstructing the compressed texture data into an input image,

and further comprising an eight step for mapping the input image or the input image processed by the sharpness enhancing process onto the shape data reconstructed.

18. (Original) A method for processing an image according to claim 17, wherein the compressed shape data and the compressed texture data are those that the input image is separated into shape data and texture data and the shape data and the texture data are compressed respectively.

19. (Original) A method for processing an image according to claim 18, wherein compressing the texture data is by lowering a resolution of the texture data.

20. (New) An apparatus for processing an image, comprising:

a subject information acquiring unit for extracting subject information contained in an input image from the input image;

a display information acquiring unit for acquiring display information representative of a performance of a display for displaying the input image;

an enhancement parameter determining unit for determining an enhancing degree as a parameter for enhancing a sharpness of the input image by using at least one of the subject information and the display information; and

an enhancing processing unit for carrying out a sharpness enhancing process on the input image by expanding a distribution in a direction of a first primary component which is a color component direction of the input image using the enhancing degree.

21. (New) A method for processing an image,

wherein subject information contained in an input image is extracted from the input image;

wherein display information representative of a performance of a display for displaying the input image is acquired;

wherein an enhancing degree as a parameter for enhancing a sharpness of the input image is determined by using at least one of the subject information and the display information; and

Appln. No.: 10/809,775
Amendment Dated: August 14, 2007
Reply to Office Action of: April 18, 2007

MAT-8526US

wherein a sharpness enhancing process is carried out on the input image by expanding a distribution in a direction of a first primary component which is a color component direction of the input image using the enhancing degree.